

**WEST****Generate Collection****Search Results - Record(s) 1 through 18 of 18 returned.** **1. Document ID: US 6187585 B1**

L1: Entry 1 of 18

File: USPT

Feb 13, 2001

US-PAT-NO: 6187585

DOCUMENT-IDENTIFIER: US 6187585 B1

TITLE: Oligonucleotide inhibition of epidermal growth factor receptor expression

DATE-ISSUED: February 13, 2001

## INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Bennett; C. Frank	Carlsbad	CA	N/A	N/A
Lipton; Allan	Hershey	PA	N/A	N/A
Witters; Lois M.	York Haven	PA	N/A	N/A

US-CL-CURRENT: 435/375; 435/6, 514/44, 536/23.1, 536/24.1, 536/24.5[Full](#) | [Title](#) | [Citation](#) | [Front](#) | [Review](#) | [Classification](#) | [Date](#) | [Reference](#) | [Claims](#) | [KIMC](#) | [Draw Desc](#) | [Image](#) **2. Document ID: US 6168778 B1**

L1: Entry 2 of 18

File: USPT

Jan 2, 2001

US-PAT-NO: 6168778

DOCUMENT-IDENTIFIER: US 6168778 B1

TITLE: Vascular endothelial growth factor (VEGF)-Nucleic Acid Ligand Complexes

DATE-ISSUED: January 2, 2001

## INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Janjic; Nebojsa	Boulder	CO	N/A	N/A
Gold; Larry	Boulder	CO	N/A	N/A
Schmidt; Paul	Niwot	CO	N/A	N/A
Vargeese; Chandra	Thornton	CO	N/A	N/A

US-CL-CURRENT: 424/1.73; 435/6, 435/91.2, 536/23.1, 536/24.3, 536/24.31, 536/25.4[Full](#) | [Title](#) | [Citation](#) | [Front](#) | [Review](#) | [Classification](#) | [Date](#) | [Reference](#) | [Claims](#) | [KIMC](#) | [Draw Desc](#) | [Image](#) **3. Document ID: US 6147204 A**

L1: Entry 3 of 18

File: USPT

Nov 14, 2000

US-PAT-NO: 6147204  
DOCUMENT-IDENTIFIER: US 6147204 A

TITLE: Nucleic acid ligand complexes

DATE-ISSUED: November 14, 2000

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Gold; Larry	Boulder	CO	N/A	N/A
Schmidt; Paul G	Niwot	CO	N/A	N/A
Janjic; Nebojsa	Boulder	CO	N/A	N/A

US-CL-CURRENT: 536/24.5; 424/450, 435/6, 435/91.2, 436/6, 536/25.4

[Full](#) | [Title](#) | [Citation](#) | [Front](#) | [Review](#) | [Classification](#) | [Date](#) | [Reference](#) | [Claims](#) | [KMC](#) | [Draw Desc](#) | [Image](#)

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4. Document ID: US 6096335 A

L1: Entry 4 of 18

File: USPT

Aug 1, 2000

US-PAT-NO: 6096335

DOCUMENT-IDENTIFIER: US 6096335 A

TITLE: Stable particulate complexes having a lamellar, rolled, and condensed structure

DATE-ISSUED: August 1, 2000

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Thierry; Alain R.	L'Union	N/A	N/A	FRX

US-CL-CURRENT: 424/450; 428/402.2, 428/402.24, 435/458

[Full](#) | [Title](#) | [Citation](#) | [Front](#) | [Review](#) | [Classification](#) | [Date](#) | [Reference](#) | [Claims](#) | [KMC](#) | [Draw Desc](#) | [Image](#)

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5. Document ID: US 6093382 A

L1: Entry 5 of 18

File: USPT

Jul 25, 2000

US-PAT-NO: 6093382  
 DOCUMENT-IDENTIFIER: US 6093382 A

TITLE: Metal complexes derivatized with folate for use in diagnostic and therapeutic applications

DATE-ISSUED: July 25, 2000

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Wedeking; Paul W.	Pennington	NJ	N/A	N/A
Wager; Ruth E.	Rockville	MD	N/A	N/A
Arunachalam; Thangavel	Plainsboro	NJ	N/A	N/A
Ramalingam; Kondareddiar	Dayton	NJ	N/A	N/A
Linder; Karen E.	Kingston	NJ	N/A	N/A
Ranganathan; Ramachandran S.	Princeton	NJ	N/A	N/A
Nunn; Adrian D.	Lambertville	NJ	N/A	N/A
Raju; Natarajan	Kendall Park	NJ	N/A	N/A
Tweedle; Michael F.	Princeton	NJ	N/A	N/A

US-CL-CURRENT: 424/1.65; 424/1.11, 424/1.69, 424/9.1, 534/10, 534/14

[Full](#) | [Title](#) | [Citation](#) | [Front](#) | [Review](#) | [Classification](#) | [Date](#) | [Reference](#) | [Claims](#) | [KMC](#) | [Drawn Desc](#) | [Image](#)

6. Document ID: US 6051698 A

L1: Entry 6 of 18

File: USPT

Apr 18, 2000

US-PAT-NO: 6051698

DOCUMENT-IDENTIFIER: US 6051698 A

TITLE: Vascular endothelial growth factor (VEGF) nucleic acid ligand complexes

DATE-ISSUED: April 18, 2000

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Janjic; Nebojsa	Boulder	CO	80301	N/A
Gold; Larry	Boulder	CO	80302	N/A
Schmidt; Paul	Niwot	CO	80544	N/A
Vargeese; Chandra	Thornton	CO	80233	N/A

US-CL-CURRENT: 536/24.31; 435/6

[Full](#) | [Title](#) | [Citation](#) | [Front](#) | [Review](#) | [Classification](#) | [Date](#) | [Reference](#) | [Claims](#) | [KMC](#) | [Drawn Desc](#) | [Image](#)

7. Document ID: US 6043094 A

L1: Entry 7 of 18

File: USPT

Mar 28, 2000

US-PAT-NO: 6043094

DOCUMENT-IDENTIFIER: US 6043094 A

TITLE: Therapeutic liposome composition and method

DATE-ISSUED: March 28, 2000

## INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Martin; Francis J.	San Francisco	CA	N/A	N/A
Zalipsky; Samuel	Redwood City	CA	N/A	N/A
Huang; Shi Kun	Castro Valley	CA	N/A	N/A

US-CL-CURRENT: 435/458; 424/450, 435/375, 530/402, 530/403[Full](#) | [Title](#) | [Citation](#) | [Front](#) | [Review](#) | [Classification](#) | [Date](#) | [Reference](#) | [Claims](#) | [KMC](#) | [Drawn Desc](#) | [Image](#)

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 8. Document ID: US 6011020 A

L1: Entry 8 of 18

File: USPT

Jan 4, 2000

US-PAT-NO: 6011020

DOCUMENT-IDENTIFIER: US 6011020 A

TITLE: Nucleic acid ligand complexes

DATE-ISSUED: January 4, 2000

## INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Gold; Larry	Boulder	CO	N/A	N/A
Schmidt; Paul G.	San Marino	CA	N/A	N/A
Janjic; Nebojsa	Boulder	CO	N/A	N/A

US-CL-CURRENT: 514/44; 424/1.21, 424/1.73, 424/450, 435/6, 536/22.1, 536/23.1,  
536/24.3, 536/24.31[Full](#) | [Title](#) | [Citation](#) | [Front](#) | [Review](#) | [Classification](#) | [Date](#) | [Reference](#) | [Claims](#) | [KMC](#) | [Drawn Desc](#) | [Image](#)

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 9. Document ID: US 5965542 A

L1: Entry 9 of 18

File: USPT

Oct 12, 1999

US-PAT-NO: 5965542

DOCUMENT-IDENTIFIER: US 5965542 A

TITLE: Use of temperature to control the size of cationic liposome/plasmid DNA complexes

DATE-ISSUED: October 12, 1999

## INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Wasan; Ellen K.	Vancouver	N/A	N/A	CAX
Bally; Marcel B.	Bowen Island	N/A	N/A	CAX
Hope; Michael J.	Vancouver	N/A	N/A	CAX
Reimer; Dorothy L.	Vancouver	N/A	N/A	CAX
Ahkong; Quet Fah	Surry	N/A	N/A	CAX

US-CL-CURRENT: 514/44; 424/450, 435/320.1, 435/458, 435/468, 435/91.1, 435/91.4,  
536/23.1[Full](#) | [Title](#) | [Citation](#) | [Front](#) | [Review](#) | [Classification](#) | [Date](#) | [Reference](#) | [Claims](#) | [KMC](#) | [Drawn Desc](#) | [Images](#) 10. Document ID: US 5914269 A

L1: Entry 10 of 18

File: USPT

Jun 22, 1999

US-PAT-NO: 5914269

DOCUMENT-IDENTIFIER: US 5914269 A

TITLE: Oligonucleotide inhibition of epidermal growth factor receptor expression

DATE-ISSUED: June 22, 1999

## INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Bennett; C. Frank	Carlsbad	CA	N/A	N/A
Lipton; Allan	Hershey	PA	N/A	N/A
Witters; Lois M.	York Haven	PA	N/A	N/A

US-CL-CURRENT: 435/375; 435/6, 514/44, 536/23.1, 536/23.2, 536/24.1, 536/24.5[Full](#) | [Title](#) | [Citation](#) | [Front](#) | [Review](#) | [Classification](#) | [Date](#) | [Reference](#) | [Claims](#) | [KMC](#) | [Drawn Desc](#) | [Images](#) 11. Document ID: US 5908777 A

L1: Entry 11 of 18

File: USPT

Jun 1, 1999

US-PAT-NO: 5908777  
DOCUMENT-IDENTIFIER: US 5908777 A

TITLE: Lipidic vector for nucleic acid delivery

DATE-ISSUED: June 1, 1999

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Lee; Robert J.	Pittsburgh	PA	N/A	N/A
Huang; Leaf	Wexford	PA	N/A	N/A

US-CL-CURRENT: 435/320.1; 264/4.1, 424/450, 424/93.21, 435/325, 435/458, 435/69.1,  
514/44

[Full](#) | [Title](#) | [Citation](#) | [Front](#) | [Review](#) | [Classification](#) | [Date](#) | [Reference](#) | [Claims](#) | [KMC](#) | [Draw Desc](#) | [Image](#)

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12. Document ID: US 5891468 A

L1: Entry 12 of 18

File: USPT

Apr 6, 1999

US-PAT-NO: 5891468

DOCUMENT-IDENTIFIER: US 5891468 A

TITLE: Fusogenic liposome compositions and method

DATE-ISSUED: April 6, 1999

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Martin; Francis J.	San Francisco	CA	N/A	N/A
Zalipsky; Samuel	Redwood City	CA	N/A	N/A

US-CL-CURRENT: 424/450; 436/829

[Full](#) | [Title](#) | [Citation](#) | [Front](#) | [Review](#) | [Classification](#) | [Date](#) | [Reference](#) | [Claims](#) | [KMC](#) | [Draw Desc](#) | [Image](#)

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13. Document ID: US 5859228 A

L1: Entry 13 of 18

File: USPT

Jan 12, 1999

US-PAT-NO: 5859228

DOCUMENT-IDENTIFIER: US 5859228 A

TITLE: Vascular endothelial growth factor (VEGF) nucleic acid ligand complexes

DATE-ISSUED: January 12, 1999

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Janjic; Nebojsa	Boulder	CO	N/A	N/A
Gold; Larry	Boulder	CO	N/A	N/A
Schmidt; Paul	Niwot	CO	N/A	N/A

US-CL-CURRENT: 536/24.3

<a href="#">Full</a>	<a href="#">Title</a>	<a href="#">Citation</a>	<a href="#">Front</a>	<a href="#">Review</a>	<a href="#">Classification</a>	<a href="#">Date</a>	<a href="#">Reference</a>	<a href="#">Claims</a>	<a href="#">KMC</a>	<a href="#">Draw Desc</a>	<a href="#">Image</a>
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**□ 14. Document ID: US 5804445 A**

L1: Entry 14 of 18

File: USPT

Sep 8, 1998

US-PAT-NO: 5804445

DOCUMENT-IDENTIFIER: US 5804445 A

TITLE: High affinity mutants of nuclear factor-interleukin 6 and methods of use therefor

DATE-ISSUED: September 8, 1998

## INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Brasier; Allan R.	Galveston	TX	N/A	N/A

US-CL-CURRENT: 435/375; 435/243, 435/325, 530/324

<a href="#">Full</a>	<a href="#">Title</a>	<a href="#">Citation</a>	<a href="#">Front</a>	<a href="#">Review</a>	<a href="#">Classification</a>	<a href="#">Date</a>	<a href="#">Reference</a>	<a href="#">Claims</a>	<a href="#">KMC</a>	<a href="#">Draw Desc</a>	<a href="#">Image</a>
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**□ 15. Document ID: US 5759827 A**

L1: Entry 15 of 18

File: USPT

Jun 2, 1998

US-PAT-NO: 5759827

DOCUMENT-IDENTIFIER: US 5759827 A

TITLE: Acylated oligopeptides for transfecting cells

DATE-ISSUED: June 2, 1998

## INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Legendre; Jean-Yves	Paris	N/A	N/A	FRX
Supersaxo; Andreas	Basel	N/A	N/A	CHX
Trzeciak; Arnold	Schopfheim	N/A	N/A	DEX

US-CL-CURRENT: 435/458; 435/244, 435/468, 435/471, 514/2

<a href="#">Full</a>	<a href="#">Title</a>	<a href="#">Citation</a>	<a href="#">Front</a>	<a href="#">Review</a>	<a href="#">Classification</a>	<a href="#">Date</a>	<a href="#">Reference</a>	<a href="#">Claims</a>	<a href="#">KMC</a>	<a href="#">Draw Desc</a>	<a href="#">Image</a>
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**□ 16. Document ID: US 5635385 A**

L1: Entry 16 of 18

File: USPT

Jun 3, 1997

US-PAT-NO: 5635385

DOCUMENT- IDENTIFIER: US 5635385 A

TITLE: Multi-unit ribozyme inhibition of oncogene gene expression

DATE-ISSUED: June 3, 1997

## INVENTOR- INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Leopold; Lance H.	Philadelphia	PA	N/A	N/A
Shore; Scott K.	Ardmore	PA	N/A	N/A
Reddy; Moole V. R.	Upper Darby	PA	N/A	N/A
Reddy; E. Premkumar	Villanova	PA	N/A	N/A

US-CL-CURRENT: 435/325; 424/450, 435/320.1, 435/372, 435/375, 435/6, 435/91.1,  
435/91.3, 435/91.31, 514/44, 536/24.5, 536/25.1, 536/25.3

<a href="#">Full</a>	<a href="#">Title</a>	<a href="#">Citation</a>	<a href="#">Front</a>	<a href="#">Review</a>	<a href="#">Classification</a>	<a href="#">Date</a>	<a href="#">Reference</a>	<a href="#">Claims</a>	<a href="#">KMC</a>	<a href="#">Drawn Desc</a>	<a href="#">Images</a>
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 17. Document ID: EP 1032369 A1, WO 9925320 A1, AU 9914642 A

L1: Entry 17 of 18

File: DWPI

Sep 6, 2000

DERWENT-ACC-NO: 1999-337873

DERWENT-WEEK: 200044

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TITLE: Vector for systemic delivery of therapeutic molecules

INVENTOR: CHANG, E H; PIROLLO, K ; XU, L

PRIORITY-DATA: 1998US-0083175 (April 27, 1998), 1997US-0066188 (November 19, 1997)

## PATENT-FAMILY:

PUB-NO	PUB-DATE	LANGUAGE	PAGES	MAIN-IPC
EP 1032369 A1	September 6, 2000	E	000	A61K009/127
WO 9925320 A1	May 27, 1999	E	089	A61K009/127
AU 9914642 A	June 7, 1999	N/A	000	A61K009/127

INT-CL (IPC): A61K 9/127; A61K 48/00; C12N 15/88

<a href="#">Full</a>	<a href="#">Title</a>	<a href="#">Citation</a>	<a href="#">Front</a>	<a href="#">Review</a>	<a href="#">Classification</a>	<a href="#">Date</a>	<a href="#">Reference</a>	<a href="#">Claims</a>	<a href="#">KMC</a>	<a href="#">Drawn Desc</a>	<a href="#">Images</a>
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 18. Document ID: WO 9012096 A, PT 93646 A, CA 2013580 A, CA 2013582 A, AU 9054375 A, EP 466816 A, US 5108921 A, JP 05502787 W, EP 466816 A4, US 5416016 A, IL 93983 A, US 5635382 A, EP 466816 B1, DE 69031763 E, ES 2113346 T3, US 5820847 A, IE 81171 B

L1: Entry 18 of 18

File: DWPI

Oct 18, 1990

DERWENT-ACC-NO: 1990-334846

DERWENT-WEEK: 200064

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TITLE: Enhancing trans-membrane transport of exogenous molecules - by binding to cell nutrients with receptors e.g. bio-tin or folate

INVENTOR: HEINSTEIN, P F; HORN, M A ; LOW, P S

PRIORITY-DATA: 1990US-0498762 (March 28, 1990), 1989US-0331816 (April 3, 1989), 1992US-0851544 (March 13, 1992), 1994US-0349407 (December 5, 1994), 1997US-0784019 (January 15, 1997)

## PATENT-FAMILY:

PUB-NO	PUB-DATE	LANGUAGE	PAGES	MAIN-IPC
WO 9012096 A	October 18, 1990	N/A	000	N/A
PT 93646 A	November 20, 1990	N/A	000	N/A
CA 2013580 A	October 3, 1990	N/A	000	N/A
CA 2013582 A	October 3, 1990	N/A	000	N/A
AU 9054375 A	November 5, 1990	N/A	000	N/A
EP 466816 A	January 22, 1992	N/A	000	N/A
US 5108921 A	April 28, 1992	N/A	011	N/A
JP 05502787 W	May 20, 1993	N/A	021	C12N005/06
EP 466816 A4	May 20, 1992	N/A	000	N/A
US 5416016 A	May 16, 1995	N/A	012	C12N005/04
IL 93983 A	February 18, 1997	N/A	000	A61K031/00
US 5635382 A	June 3, 1997	N/A	011	C12N015/09
EP 466816 B1	November 26, 1997	E	017	C12N015/00
DE 69031763 E	January 8, 1998	N/A	000	C12N015/00
ES 2113346 T3	May 1, 1998	N/A	000	C12N015/00
US 5820847 A	October 13, 1998	N/A	000	A61K049/00
IE 81171 B	May 31, 2000	N/A	000	B01J019/00

B INT-CL (IPC): A61K 9/127; A61K 31/00; A61K 31/415; A61K 31/505; A61K 31/70; A61K 35/00; A61K 37/00; A61K 37/02; A61K 38/00; A61K 38/02; A61K 39/00; A61K 48/00; A61K 49/00; A61K 51/02; B01D 61/00; B01J 19/00; C12M 0/00 ; C12N 1/00; C12N 1/04; C12N 5/00; C12N 5/04; C12N 5/06; C12N 15/00; C12N 15/09; C12Q 0/00

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Terms	Documents
(folate or folic) adj5 (liposome\$ or microsphere\$)	18

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- US Pre-Grant Publication Full-Text Database
- JPO Abstracts Database
- EPO Abstracts Database
- Derwent World Patents Index
- IBM Technical Disclosure Bulletins

11 and 12

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### Search History

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USPT,JPAB,EPAB,DWPI,TDBD	11 and 12	1	<u>L3</u>
USPT,JPAB,EPAB,DWPI,TDBD	p adj2 glycoprotein	735	<u>L2</u>
USPT,JPAB,EPAB,DWPI,TDBD	(folate or folic) adj5 (liposome\$ or microsphere\$)	18	<u>L1</u>

**WEST****Generate Collection****Search Results - Record(s) 1 through 7 of 7 returned.** **1. Document ID: US 5434087 A**

L4: Entry 1 of 7

File: USPT

Jul 18, 1995

US-PAT-NO: 5434087

DOCUMENT-IDENTIFIER: US 5434087 A

TITLE: Folate immunoassay utilizing folate binding protein in a multyclonal antibody format

DATE-ISSUED: July 18, 1995

## INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Beggs; Michael J.	Waukegan	IL	N/A	N/A
Sohn; Linda J.	Palatine	IL	N/A	N/A
Herrmann; Robert J.	Gurnee	IL	N/A	N/A
Hsu; Stephen	Vernon Hills	IL	N/A	N/A
Hawkesworth; David J.	Mundelein	IL	N/A	N/A
Pinkus; Mary S.	Chicago	IL	N/A	N/A

US-CL-CURRENT: 436/505; 435/7.21, 435/7.93, 435/7.94, 435/971, 436/518, 436/538,  
436/539, 530/391.1[Full](#) | [Title](#) | [Citation](#) | [Front](#) | [Review](#) | [Classification](#) | [Date](#) | [Reference](#) | [Claims](#) | [KUMC](#) | [Drawn Desc](#) | [Image](#) **2. Document ID: US 4956092 A**

L4: Entry 2 of 7

File: USPT

Sep 11, 1990

US-PAT-NO: 4956092

DOCUMENT-IDENTIFIER: US 4956092 A

TITLE: Method for concentrating/dehydrating of sewage sludge

DATE-ISSUED: September 11, 1990

## INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Blum; Holger	D-2000 Hamburg 13	N/A	N/A	DEX

US-CL-CURRENT: 210/609; 210/610, 210/623, 210/631, 210/726[Full](#) | [Title](#) | [Citation](#) | [Front](#) | [Review](#) | [Classification](#) | [Date](#) | [Reference](#) | [Claims](#) | [KUMC](#) | [Drawn Desc](#) | [Image](#) **3. Document ID: AU 200040943 A, WO 200066091 A1**

L4: Entry 3 of 7

File: DWPI

Nov 17, 2000

DERWENT-ACC-NO: 2001-031716

DERWENT-WEEK: 200111

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TITLE: Amplification of folate-mediated targeting to tumor cells using a complex comprising a polymer to which is coupled a targeting molecule which binds to folic acid receptors

INVENTOR: MCEWAN, J F; RUSSELL-JONES, G J

PRIORITY-DATA: 1999AU-0000147 (May 4, 1999)

## PATENT-FAMILY:

PUB-NO	PUB-DATE	LANGUAGE	PAGES	MAIN-IPC
AU 200040943 A	November 17, 2000	N/A	000	A61K009/51
WO 200066091 A1	November 9, 2000	E	036	A61K009/51

INT-CL (IPC): A61K 9/51; A61K 31/519; A61K 47/48; A61P 35/00; C08B 11/08; C08B 37/02; C08B 37/08; C08F 120/56; C08G 65/34; C08G 69/36; C08G 71/04

[Full](#) | [Title](#) | [Citation](#) | [Front.](#) | [Review](#) | [Classification](#) | [Date](#) | [Reference](#) | [Claims](#) | [KMC](#) | [Drawn Desc](#) | [Clip Img](#) | [Image](#)

4. Document ID: ES 2135120 T3, EP 731082 A1, DE 19508532 A1, CZ 9600734 A3, JP 08245445 A, CA 2171415 A, DE 19525506 A1, SG 42369 A1, US 5684188 A, CN 1139098 A, TW 341562 A, EP 731082 B1, DE 59602040 G

L4: Entry 4 of 7

File: DWPI

Oct 16, 1999

DERWENT-ACC-NO: 1996-403940

DERWENT-WEEK: 199950

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TITLE: Continuous gas phase oxidn. of propene to acrolein and acrylic acid - with oxygen@ using only inert diluent gas based on lower satd. hydrocarbons increases safe vol. fractions of reactants and hence productivity

INVENTOR: HEFNER, W ; MACHHAMMER, O ; NEUMANN, H ; RUPPEL, W ; TENTEN, A ; VOGEL, H ; NEUMANN, H P ; KALMITSTR, W R

PRIORITY-DATA: 1995DE-1025506 (July 13, 1995), 1995DE-1008532 (March 10, 1995)

**PATENT-FAMILY:**

PUB-NO	PUB-DATE	LANGUAGE	PAGES	MAIN-IPC
ES 2135120 T3	October 16, 1999	N/A	000	C07C057/04
EP 731082 A1	September 11, 1996	G	009	C07C057/04
DE 19508532 A1	September 12, 1996	N/A	006	C07C057/05
CZ 9600734 A3	September 11, 1996	N/A	000	C07C057/055
JP 08245445 A	September 24, 1996	N/A	008	C07C027/14
CA 2171415 A	September 11, 1996	N/A	000	C07C057/05
DE 19525506 A1	January 16, 1997	N/A	007	C07C057/055
SG 42369 A1	August 15, 1997	N/A	000	C07C045/35
US 5684188 A	November 4, 1997	N/A	006	C07C045/34
CN 1139098 A	January 1, 1997	N/A	000	C07C057/05
TW 341562 A	October 1, 1998	N/A	000	C07C045/35
EP 731082 B1	June 2, 1999	G	000	C07C057/04
DE 59602040 G	July 8, 1999	N/A	000	C07C057/04

INT-CL (IPC): C07C 27/00; C07C 27/14; C07C 45/34; C07C 45/35; C07C 47/22; C07C 51/21; C07C 51/23; C07C 51/25; C07C 57/04 ; C07C 57/05; C07C 57/055

[Full](#) | [Title](#) | [Citation](#) | [Front](#) | [Review](#) | [Classification](#) | [Date](#) | [Reference](#) | [Claims](#) | [KMC](#) | [Draw Desc](#) | [Image](#)

5. Document ID: CN 1143068 A, EP 731077 A2, DE 19508558 A1, CZ 9600733 A3, EP 731077 A3, JP 08245494 A, CA 2171417 A, DE 19525504 A1, SG 40844 A1, US 5705684 A, TW 328534 A, EP 731077 B1, DE 59603316 G, ES 2139266 T3

L4: Entry 5 of 7

File: DWPI

Feb 19, 1997

DERWENT-ACC-NO: 1996-403938

DERWENT-WEEK: 200059

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TITLE: Redn. of explosion risk in acrolein and acrylic acid prodn. from propane - comprises removing at least hydrogen and steam from gas mixt. from partial dehydrogenation before selective partial oxidn. with pure oxygen

INVENTOR: HEFNER, W ; MACHHAMMER, O ; NEUMANN, H ; RUPPEL, W ; TENTEN, A ; VOGEL, H ; NEUMANN, H P ; SCHILLERSTR, A T ; MACHHAMMER, O

PRIORITY-DATA: 1995DE-1025504 (July 13, 1995), 1995DE-1008558 (March 10, 1995)

PATENT-FAMILY:

PUB-NO	PUB-DATE	LANGUAGE	PAGES	MAIN-IPC
CN 1143068 A	February 19, 1997	N/A	000	C07C057/05
EP 731077 A2	September 11, 1996	G	009	C07C047/22
DE 19508558 A1	September 12, 1996	N/A	007	C07C057/05
CZ 9600733 A3	September 11, 1996	N/A	000	C07C047/22
EP 731077 A3	September 25, 1996	N/A	000	C07C047/22
JP 08245494 A	September 24, 1996	N/A	008	C07C057/05
CA 2171417 A	September 11, 1996	N/A	000	C07C057/05
DE 19525504 A1	January 16, 1997	N/A	008	C07C057/05
SG 40844 A1	June 14, 1997	N/A	000	C07C045/35
US 5705684 A	January 6, 1998	N/A	008	C07C051/16
TW 328534 A	March 21, 1998	N/A	000	C07C027/14
EP 731077 B1	October 13, 1999	G	000	C07C047/22
DE 59603316 G	November 18, 1999	N/A	000	C07C047/22
ES 2139266 T3	February 1, 2000	N/A	000	C07C047/22

INT-CL (IPC): C07B 61/00; C07C 5/327; C07C 5/333; C07C 11/06; C07C 27/14; C07C 45/33; C07C 45/35; C07C 47/21; C07C 47/22 ; C07C 51/16; C07C 51/21; C07C 51/215; C07C 51/25; C07C 57/04; C07C 57/05; C07C 57/055

[ Full | Title | Citation | Front | Review | Classification | Date | Reference | Claims | KMC | Draw Desc | Images ]

6. Document ID: JP 3007919 B2, JP 04117286 A

L4: Entry 6 of 7

File: DWPI

Feb 14, 2000

DERWENT-ACC-NO: 1992-180078

DERWENT-WEEK: 200013

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TITLE: Fused protein (II) of di:hydro:folate reductase-antiallergic peptide polymer - prep'd. by culturing Escherichia coli

PRIORITY-DATA: 1990JP-0123203 (May 15, 1990)

## PATENT-FAMILY:

PUB-NO	PUB-DATE	LANGUAGE	PAGES	MAIN-IPC
JP 3007919 B2	February 14, 2000	N/A	029	C12N015/09
JP 04117286 A	April 17, 1992	N/A	020	C12N015/12

INT-CL (IPC) : A61K 31/00; A61K 37/02; A61K 37/50; A61K 38/00; A61K 38/44; C07K 1/12; C07K 1/22; C07K 7/06; C07K 13/00; C07K 19/00; C12N 1/21; C12N 9/02; C12N 15/09; C12N 15/12; C12N 15/53; C12N 15/62; C12P 21/02; C12N 1/21; C12R 1/91; C12P 21/02; C12R 1/19; C12N 1/21; C12R 1/19; C12P 21/02; C12R 1/91

<a href="#">Full</a>	<a href="#">Title</a>	<a href="#">Citation</a>	<a href="#">Front</a>	<a href="#">Review</a>	<a href="#">Classification</a>	<a href="#">Date</a>	<a href="#">Reference</a>	<a href="#">Claims</a>	<a href="#">KMC</a>	<a href="#">Draw Desc</a>	<a href="#">Image</a>
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 7. Document ID: JP 3012908 B2, JP 04117285 A

L4: Entry 7 of 7

File: DWPI

Feb 28, 2000

DERWENT-ACC-NO: 1992-180077

DERWENT-WEEK: 200015

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TITLE: Fused protein of di:hydro:folate reductase antiallergic peptide polymer - can be produced from culture of E.coli in large amts.

PRIORITY-DATA: 1990JP-0123202 (May 15, 1990)

## PATENT-FAMILY:

PUB-NO	PUB-DATE	LANGUAGE	PAGES	MAIN-IPC
JP 3012908 B2	February 28, 2000	N/A	027	C12N015/09
JP 04117285 A	April 17, 1992	N/A	021	C12N015/12

INT-CL (IPC) : A61K 37/02; A61K 37/50; A61K 38/00; A61K 38/44; A61P 37/08; C07K 1/12; C07K 1/22; C07K 7/06; C07K 13/00; C07K 19/00; C12N 1/21; C12N 9/02; C12N 15/09; C12N 15/12; C12N 15/53; C12N 15/62; C12P 21/02; C12N 1/21; C12R 1/91; C12P 21/02; C12R 1/19; C12N 1/21; C12R 1/19; C12P 21/02; C12R 1/91

<a href="#">Full</a>	<a href="#">Title</a>	<a href="#">Citation</a>	<a href="#">Front</a>	<a href="#">Review</a>	<a href="#">Classification</a>	<a href="#">Date</a>	<a href="#">Reference</a>	<a href="#">Claims</a>	<a href="#">KMC</a>	<a href="#">Draw Desc</a>	<a href="#">Image</a>
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<a href="#">Generate Collection</a>
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Terms	Documents
(folate or folic) adj5 (polymer or polymers)	7

Display
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30	Documents, starting with Document: 7
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**Display Format:**  CIT  Change Format

**WEST****End of Result Set** **Generate Collection**

L1: Entry 18 of 18

File: DWPI

Oct 18, 1990

DERWENT-ACC-NO: 1990-334846

DERWENT-WEEK: 200064

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**TITLE:** Enhancing trans-membrane transport of exogenous molecules - by binding to cell nutrients with receptors e.g. bio-tin or folate**ABEQ:**

Enhancement of transport of an exogenous molecule across the membrane of a living cell comprises contacting the membrane with the exogenous molecule complexed with a ligand selected from folic acid, folate receptor-binding analogs of folic acid and other folate receptor binding ligands for time to permit trans membrane transport of the complex. Pref. ligand is folic, folinic or pteropolyglutamic acid, folate receptor-binding pteridines and their deaza- and dideaza- analogues. Cells are eukaryotes, prokaryotes, yeast, bacterial, plant, animal and human cells esp. lining of alimentary canal, dermis, epidermis, nasal and vaginal mucosa, placenta, eye and blood-brain barrier tissues. Exogenous cpds. include proteins, oligopeptides, polypeptides, nucleic acids and analogs. The nucleic acid, which may be a plasmid, may be incorporated into the heritable genome of the cell. Transport of an exogenous molecule within a liposome across the membrane of a living cell may be potentiated by having the above folic acid derivs. in the liposome contacting surface pref. covalently bound through the head gp. of phospholipid, directly or via a spacer.

**WEST** **Generate Collection**

L1: Entry 16 of 18

File: USPT

Jun 3, 1997

DOCUMENT-IDENTIFIER: US 5635385 A

TITLE: Multi-unit ribozyme inhibition of oncogene gene expression

**DRPR:**

FIG. 5 is an autoradiogram from sequential transfections of triple-unit ribozymes via folate-mediated uptake in 32D cells. Total cellular RNA was isolated 3 hour after transfection. The lanes marked "3", "24" and "48" represent, respectively, RNA from cells transfected at time zero with  $\sup{32}$ P-labeled ribozymes, RNA from cells transfected at time zero with unlabeled ribozymes and at 24 hours with  $\sup{32}$ P-labeled ribozymes, and RNA from cells transfected at time zero with unlabeled ribozymes and at 48 hours with  $\sup{32}$ P-labeled ribozymes. FIG. 6 is an autoradiogram of a Southern blot of RT-PCR-amplified cr-abl mRNA from transformed 32D cells transfected with vectors containing no ribozymes (Control) or triple-unit ribozymes in folate-polylysine (Folate transfections) or liposome vectors (Liposome transfections).

**DEPR:**

Transformed 32D cells maintained in IMDM with 10% FBS and cells of the CML cell line K562 maintained in RPMI with 10% FBS were used in the following transfection studies. All cells were washed twice in phosphate-buffered saline (PBS) prior to transfection. In liposome transfection, K562 cells were suspended in reduced serum media (OptimMem 1, Gibco, Gaithersburg, MD) and transformed 32D cells were suspended in serum-free IMDM. Folate-polylysine mediated transfections were carried out in serum-free, folate-free DMEM after K562 and transformed 32D cells were grown in this media with 10% FBS for 3 days. Folate-polylysine and liposome vectors containing ribozyme were prepared as in the preceding Examples. The transfection mix (triple-unit ribozyme in liposome or in folate-polylysine) was added to 4 ml of media containing 1 .times. $10^6$  K562 of transformed 32D cells.

WEST

 Generate Collection

L1: Entry 14 of 18

File: USPT

Sep 8, 1998

DOCUMENT-IDENTIFIER: US 5804445 A

TITLE: High affinity mutants of nuclear factor-interleukin 6 and methods of use  
therefor

## BSPR:

Also provided is a pharmaceutical composition comprising (i) a polypeptide comprising an NF-IL6 tryptic core domain, wherein the N-terminus of said core domain has a net charge that is less negative than wild-type NF-IL6 tryptic core domain; and (ii) a pharmaceutically acceptable excipient, diluent or carrier. In a particular embodiment, the pharmaceutical composition is formulated with folate-conjugated bovine serum albumin or with a liposome.

## BSPR:

Still another aspect of the present invention involves a method for treating pro-inflammatory cytokine production in a patient comprising the steps of (i) providing pharmaceutical composition comprising (a) a polypeptide comprising an NF-IL6 tryptic core domain, wherein the N-terminus of said core domain has a net charge that is less negative than wild-type NF-IL6 tryptic core domain and (b) a pharmaceutically acceptable excipient, diluent or carrier; and (ii) administering said polypeptide to said patient. Administration may comprise inhalation or an enema. The polypeptide may be formulated with folate-conjugated bovine serum albumin or with a liposome.

WEST

 Generate Collection

L1: Entry 13 of 18

File: USPT

Jan 12, 1999

DOCUMENT-IDENTIFIER: US 5859228 A

TITLE: Vascular endothelial growth factor (VEGF) nucleic acid ligand complexes

## BSPR:

A few instances have been reported where researchers have attached antisense oligonucleotides to Lipophilic Compounds. Antisense oligonucleotides, however, are only effective as intracellular agents. Antisense oligodeoxyribonucleotides targeted to the epidermal growth factor (EGF) receptor have been encapsulated into Liposomes linked to folate via a polyethylene glycol spacer (folate-PEG-Liposomes) and delivered into cultured KB cells via folate receptor-mediated endocytosis (Wang et al. (1995) Proc. Natl. Acad. Sci. USA 92:3318-3322). In addition, a Lipophilic Compound covalently attached to an antisense oligonucleotide has been demonstrated in the literature (EP 462 145 B1).

 

L1: Entry 12 of 18

File: USPT

Apr 6, 1999

DOCUMENT-IDENTIFIER: US 5891468 A

TITLE: Fusogenic liposome compositions and method

## DEPR:

Folic acid (compound XXVI) is a hematopoietic vitamin with a molecular weight of 441 daltons. Folic acid binds to the folate receptor, also known as the membrane folate binding protein, which is a membrane protein having some features of a receptor involved in receptor-mediated endocytosis. The receptor is maximally expressed on the surface of folate-depleted tissue culture cells and is responsible for the high affinity accumulation of 5-methyltetrahydrofolic acid in the cytoplasm of these cells (Rothberg, et al., 1990). It has also been reported that high affinity receptors for folic acid are greatly enriched on certain cancer cells (Lee, et al., 1994). A folic acid ligand incorporated into a liposome by attachment to the distal end of lipidanchored hydrophilic polymer chains, would target the liposomes to such cancerous cells.

WEST

 Generate Collection

L1: Entry 11 of 18

File: USPT

Jun 1, 1999

DOCUMENT-IDENTIFIER: US 5908777 A

TITLE: Lipidic vector for nucleic acid delivery

## DEPR:

FIG. 6 shows the uptake of I.sup.125-labeled DNA by KB cells. Cellular uptake of DNA was then determined by counting the radioactivity in the lysate and calibrated with the protein content in the cellular lysate (by the Commassie assay). Open squares are non-targeted DNA-containing liposomes composed of DOPE/CHEMS (6:4); solid circles are folate-targeted liposomes composed of DOPE/CHEMS/folate-PEG-PE (6:4:0.01); open circles are folate targeted liposomes plus 1 mM free folic acid.

## DEPR:

Liposomes which were pH-sensitive and which were composed of DOPE/CHEMS (6:4) were prepared by the following method. DOPE and CHEMS (50 mg total lipids) were first dissolved in dry chloroform and then dried into a thin film in a round-bottomed flask. Next, the lipid was suspended in 2.5 ml deionized H.sub.2 O by vortexing. The suspension then was adjusted to pH 8 and sonicated in a bath-type sonicator for 5 minutes. The resulting liposomes were sized by light scattering and sterilized by filtration through a 0.45 .mu.m filter. Folate-targeted liposome was prepared by the same method except 0.1 mole % folate-PEG-PE was included in the lipid composition. (Anionic non-pH-sensitive liposome composed of DOPE/PS (8:2) were also prepared by the same method.

## DEPR:

DNA/polylysine (1:0.75) complex became spontaneously encapsulated when rapidly mixed with DOPE/CHEMS (6:4) liposomes. The size of the DNA-containing liposome was dependent on the charge ratio between the DNA/polylysine complex and the anionic liposomes (FIG. 3). When the overall charge was close to neutral, the size of the particles increased over time due to aggregation. A similar charge/size relationship was observed when 0.1 mole % folate-PEG-PE was included in the anionic liposomes during the preparation of folate-targeted liposomes. In order to compare the liposome preparations described above with standard preparations, a cationic liposome DNA/DC-chol complex was prepared according to Gao and Huang, Biochem. Biophys. Res. Comm. 179: 280-85 (1991). Its activity was deemed optimum when prepared at a ratio of 1 .mu.g:10 nM of DNA to liposome.

## DEPR:

Folate receptor (K.sub.d = 1 nM for folic acid) has recently been identified as a prominent tumor marker, especially in ovarian carcinomas. KB cells, known to vastly overexpress the folate receptor, were transfected with DNA-containing, folate-targeted liposomes prepared as described in Example 1 (see FIG. 4). At low lipid to DNA ratio (<6), cationic particles were produced. Transfection of the KB cells was efficient but could not be inhibited by the addition of 1 mM free folic acid, which suggested that the cellular uptake was due primarily to charge interaction between the DNA-containing liposomes and the negatively charged cell surface rather than via the folate receptor. At a lipid to DNA ratio of 6, the transfection efficiency with these liposomes was 13-times higher than the cationic liposome DNA/DC-chol complex (prepared under optimized conditions of 1 .mu.g:10 nM DNA/liposome ratio. At higher lipid-to-DNA ratios (>10), where anionic particles were formed, however, transfection appeared to be receptor-mediated, since it could be partially blocked by free folic acid.

## DEPR:

Interestingly, even 1 mM folic acid was insufficient to completely block the receptor-mediated transfection. This was probably due to the multivalency of the

ligand on the liposomes conferring them much higher affinities than the monovalent folic acid. Non-targeted anionic DNA-containing liposomes were inactive in cellular transfection (data not shown). At lipid to DNA ratios of higher than 12, there was a reduction in transfection activity probably due to DNA uptake competition by excess empty folate-conjugated liposomes.

## DEPR:

KB cells were seeded at 5.times.10.<sup>4</sup> per well in 24-well plates and incubated overnight in a CO<sub>2</sub> cell culture incubator. Liposome preparations containing 1 .mu.g I.<sup>125</sup> -labeled plasmid DNA and diluted in 200 .mu.L serum-free medium were added in triplicates to each well. After 4 h incubation at 37.degree. C., the cells were washed twice with phosphate-buffered saline (PBS) and lysed in 300 .mu.L lysis buffer. Cellular uptake of DNA then was determined, by counting the radioactivity in the lysate, and calibrated with the protein content, ascertained by Commassie assay, in the cellular lysate. Non-targeted, DNA-containing liposomes composed of DOPE/CHEMS (6:4) were compared with folate-targeted liposomes composed of DOPE/CHEMS/folate-PEG-PE (6:4:0.01) in the presence or absence of 1 mM free folic acid. As can be seen in FIG. 1, for non-targeted liposomes, a high level of cellular uptake took place only at low lipid-DNA ratios, where the overall charge of the DNA-containing liposomes was positive. At these lipid/DNA ratios, folate targeting did not further enhance the level of cellular uptake. At high lipid/DNA ratios (greater than 10:1), however, folate-targeted liposomes are taken up by receptor-bearing KB cells in a ligand-specific manner; that is, the uptake was competitively inhibited by the presence of 1 mM free folic acid.

## DEPL:

Transfection of Cultured KB Cells with Folate-Conjugated DNA-Containing Liposomes

## ORPL:

R. Lee et al., "Folate-Targeted, Anionic Liposome-Entrapped Polylysine-Condensed DNA for Tumor Cell-Specific Gene Transfer", Journal of Biological Chemistry, vol. 271, No. 14, pp. 8481-8487.